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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/755,147

01/09/2004

Chao-Nan Kuo

JCLA10414

9659

7590

07/11/2006

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EXAMINER

ANGEBRANDT, MARTIN J

ART UNIT

PAPER NUMBER

1756

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/755,147

**Applicant(s)**

KUO ET AL.

**Examiner**

Martin J. Angebranndt

**Art Unit**

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 1/9/04, 5/13/04 & 10/15/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tajima et al. '045.

Tajima et al. '045 teach trimethine cyanine dyes where the aryl rings (A or A') are substituted by nitro groups. These include the naphthyl moiety required for benzoindolenic cyanine dyes ([3], [7]. The groups R and R' may be alkyl, alkenyl, aralkyl, alkoxy carbonyl, alkoxy, alkylhydroxyl, alkylamino, alkylcarbomoyl, alkylsulfamoyl, . alkalkoxy, alkylhalide, alkylsulfonyl, alkylcarboxyl. The anion may be halogens, perchloric acid, phosphoric, hexafluorophosphate, hexafluoro antimonite, hydrofluoroboric acid, benzenesulfonic acid, toluenesulfonic acid, alkylsulfonic acid, benzenecarboxylic acid, alkylcarboxylic acid, periodic acid, thiocyanate, tetraphenyl borate, tungstic acid, trifluoromethylcarboxylic acid (2/31-3/67, 5/37-7/10). The nitro groups may be in one or both of the terminal moieties, and the substitution may be with halogen, amino, cyano, alkylamide, alkylamino or phenylazo (4/39-42, 6/49-63). Example 1 describes a polycarbonate substrate provided with a recording layer including nitro containing indolenic trimethine dye having a perchlorate anion and N alkyl substitution, a quencher, which is overcoated with a gold reflective layer and a UV cured protective layer. (10/40-12/48). Example 2 is similar, but uses aralkyl N substituents.

It would have been obvious to one skilled in the art to modify the cited examples by using the benzoindolenic analog where the nitro is in the 6 position on both of the terminal

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moieties with a reasonable expectation of forming a useful optical recording medium which high absorbance and recording sensitivity as discussed in Tajima et al. '045. Further, the examiner holds that it would have been obvious to modify the examples by using a similar compound with other substituents at the 6 position such as chloro, amino, cyano, bromo or iodo; other N substituents such as alkenyl, aralkyl, alkoxycarbonyl, alkoxy, alkylhydroxyl, alkylamino, alkylcarbomoyl, alkylsulfamoyl, alkylalkoxy, alkylhalide, alkylsulfonyl or alkylcarboxyl and/or other anions such as halogen, phosphoric, hexafluorophosphate, hexafluoro antimonite, hydrofluoroboric acid, benzenesulfonic acid, toluenesulfonic acid, alkylsulfonic acid, benzenecarboxylic acid, alkylcarboxylic acid, periodic acid, thiocyanate, tetraphenyl borate, tungstic acid or trifluoromethylcarboxylic acid with a reasonable expectation of forming a useful optical recording media with the properties ascribed to it by Tajima et al. '045.

The comparative data of the applicant is with the benzoindoleneic trimethine dyes having no substituents. The primary reference together Kasukata et al. '385 and Hamada et al. JP 64-040384 evidence that there is a benefit ascribed to the presence of the nitro moiety. The applicant is invited to provide a comparison vs. the compounds used in the cited examples.

3. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tajima et al. '045, in view of Usami et al. JP 2000-265076, Kasukata et al. '385 and Hamada et al. JP 64-040384.

Usami et al. JP 2000-265076 (machine translation attached) teach benzoindoleneic pentamethine dyes having substituents in the 6 or 7 positions. (R3 and R2, respectively). These substituents include hydrogen, alkyl, alkoxy and halogen. [0018].

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Kasukata et al. '385 teach the addition of substituents including halogens and nitro groups in indolenic cyanine dyes is known to confer increased stability, recording and reproduction properties. (12/39-68).

Hamada et al. JP 64-040384 teach that nitro substituent containing indolenic cyanine dyes is known to confer increased reflectance. The other of R2 and R2' may be another substituent including amino, and halogens (abstract).

In addition to the basis above, the examiner cites Usami et al. JP 2000-265076 to support the position of obviousness with respect to the point of attachment on the benzoindolenic moiety and each of the Usami et al. JP 2000-265076, Kasukata et al. '385 and Hamada et al. JP 64-040384 references teach the presence of the nitro, amino and/or halogen moieties having a positive effect on the resulting optical recording media.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Oba et al. EP 174383, Abe et al. '514, Yanagisawa et al. JP 03-203690, JP 01-045473 and JP 62-279958 teach the benefits of halogen substitution on the phenyl rings of indolenic terminal moieties.

JP 01-040390 teaches the benefits of halogen, nitro and amino substitution on the phenyl rings of indolenic terminal moieties. (exemplified dyes and abstract)

JP 2000-289335 teaches the benefits of nitro substitution. (machine translation attached)

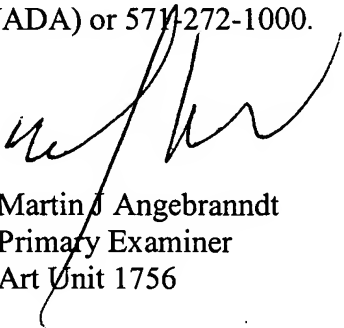
JP 01-040386 teaches the benefits of amino substitution. (abstract)

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebranndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Martin J. Angebranndt  
Primary Examiner  
Art Unit 1756

7/5/2006